

## LIGHT EMITTING DEVICES WITH IMPROVED LIGHT EXTRACTION EFFICIENCY

### ABSTRACT OF THE DISCLOSURE

A device includes a light emitting semiconductor device bonded to an optical element. In some embodiments, the optical element may be elongated or shaped to direct a portion of light emitted by the active region in a direction substantially perpendicular to a central axis of the semiconductor light emitting device and the optical element. In some embodiments, the semiconductor light emitting device and optical element are positioned in a reflector or adjacent to a light guide. The optical element may be bonded to the first semiconductor light emitting device by a bond at an interface disposed between the optical element and the semiconductor light emitting device. In some embodiments, the bond is substantially free of organic-based adhesives.